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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,776	01/14/2004	Koichiro Tanaka	0756-7239	3573
31780	7590	08/24/2006	EXAMINER NGUYEN, PHILLIP	
ERIC ROBINSON PMB 955 21010 SOUTHBANK ST. POTOMAC FALLS, VA 20165			ART UNIT 2828	

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/756,776

Applicant(s)

TANAKA, KOICHIRO

Examiner

Phillip Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 and 31-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 31-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

### ***Specification***

2. The disclosure is objected to because of the following informalities: Examiner believes there is a typographical error throughout the specification for the term "zigzag slub" which should be rewritten as --zigzag slab--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-8, 10-11, 13-17, 31-32, and 34-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Leong et al. (US Patent No. 5963364).

With respect to claims 1 and 31, Leong discloses in Fig. 2A, 4, and 5 an apparatus for irradiating a laser beam with a square or rectangular cross-section on a surface to be irradiated, said apparatus comprises: a laser oscillator 100 for emitting a plurality of laser beams having

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different wavelengths from each other (col. 6, lines 65-67); an optical system for uniforming an energy distribution of each of said plurality of laser beams and for processing each of said plurality of laser beams having different wavelengths from each other into said square or rectangular cross-section (303) on said surface to be irradiated; and a stage 301 over which an object to be irradiated is disposed.

With respect to claims 2, 11, and 32, Leong discloses the laser oscillator is YAG laser (abstract).

With respect to claims 4, 13, and 34, Leong discloses the object is a non-single crystal semiconductor film comprising silicon (col. 1, lines 40-45).

With respect to claims 5-7, 14-16, and 35-37, Leong also discloses the plurality of laser beams having different wavelengths from each other comprise second and third or fourth harmonics of YAG laser beam (abstract). Leong further discloses third and fourth harmonic of a YAG laser beam (col. 7, lines 7-9).

With respect to claims 8, 17, and 38, since Leong discloses the second, third, and fourth harmonic laser beam, the wavelength is less than 600 nm (abstract).

With respect to claims 10, Leong discloses the claimed invention as shown in rejection of claim 1 and further means (305, 306) for moving an object 304 to be irradiated relatively to said plurality of laser beams.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 12, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leong et al. (US Patent No. 5963364) in view of Ortiz (US Patent No. 5231641). Leong discloses the claimed invention except for the laser being zigzag YAG laser. Ortiz discloses a zigzag YAG laser as shown in Fig. 1-2 for generating harmonic laser beams. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide the zigzag YAG laser as taught by Ortiz to Leong in order to improve the thermal lensing problem (col. 4, lines 16-18).

Claims 9, 18, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leong et al. (US Patent No. 5963364) in view of Miyauchi et al. (US Patent No. 5229569). Leong discloses the claimed invention except for a load/unload chamber; a transfer chamber; a robot arm; and a laser irradiation chamber. Miyauchi discloses in Fig. 1 these claimed elements in a laser machining apparatus. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide these elements in order to treat the object precisely as taught by Miyauchi to Leong.

***Communication Information***


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 571-272-1947. The examiner can normally be reached on 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY, can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**JAMES MENEFFEE**  
**PRIMARY EXAMINER**